WHAT IS CLAIMED IS:

1. A method of image channel suppression in a receiver having a bandpass filter coupled to an input of a mixer, the bandpass filter having a passband that passes a desired channel and a stopband attenuation at an image channel, the method comprising:

receiving an input signal having the desired channel and the image channel;

filtering the input signal in the bandpass filter to produce a filtered signal;

attenuating the input signal by the stopband attenuation of the bandpass filter to provide an attenuated signal;

phase shifting the attenuated signal by approximately 180 degrees at the image channel to produce an image cancellation signal; and

combining the filtered signal with the image cancellation signal to produce an output signal, to suppress the image channel in the output signal.

2. The method of claim 1, wherein the desired channel in the input signal occurs at a first IF frequency (IF_1), further comprising the step of:

mixing the output signal of the combining step with a local oscillator signal to down-convert the desired channel to a second IF frequency (IF_2).

3. The method of claim 2, wherein the image channel in the input signal occurs at an approximate frequency of ($IF_1 - 2 \cdot IF_2$).

4. The method of claim 3, further comprising the step of:

filtering the desired channel at IF_2 using a second bandpass filter.

5. The method of claim 1, wherein the bandpass filter is a SAW filter.

6. The method of claim 1, wherein the steps of attenuating and phase shifting are performed in parallel with the filtering step.

7. A method of image channel suppression in a dual conversion receiver having a first mixer, a bandpass filter coupled to an output of the first mixer, and a second mixer coupled to the output of the bandpass filter, the method comprising:

receiving an RF input signal having a plurality of channels;

up-converting the RF input signal to generate a first IF signal;

filtering the first IF signal in the bandpass filter to select a desired channel from the plurality of channels that falls in a passband of the bandpass filter, so as to produce a filtered first IF signal having the desired channel and an image channel that is attenuated by a stopband attenuation of the bandpass filter;

generating an image cancellation signal from the first IF signal, the image cancellation signal having an amplitude substantially equal to the image channel in the first filtered IF signal and a phase that is offset by approximately 180 degrees from the image channel in the first filtered IF signal; and

combining the filtered first IF signal with the image cancellation signal;

down-converting the result of the combining step to a second IF signal having the desired channel.

8. The method of claim 7, further comprising the step of filtering the second IF signal.

9. The method of claim 7, wherein the step of generating the image cancellation signal from the first IF signal includes the steps of:

attenuating the first IF signal by an amount approximately equal to the stopband attenuation of the bandpass filter at the image channel frequency; and

phase shifting the result of the attenuating step so that the image cancellation signal is 180 degrees out-of-phase with the filtered first IF signal at the image channel frequency.

10. The method of claim 7, wherein the generating step is performed in parallel with the filtering step.

11. The method of claim 7, wherein the up-converting step includes the step of: mixing the RF input signal with a first local oscillator signal having a frequency determined to shift the desired channel to the passband of the bandpass filter.

12. The method of claim 11, wherein the down-converting step includes the step of mixing the result of the combining step with a second local oscillator signal to generate the second IF signal.

13. A receiver portion for suppressing an image channel, comprising:

a bandpass filter having a passband determined to pass a desired channel and attenuate an image channel of said desired channel; and

an image cancellation circuit coupled across input and output terminals of said bandpass filter, including

an attenuator having an attenuation determined by an attenuation of said image channel at an output of said bandpass filter, and

a phase shifter coupled to said attenuator that provides a phase shift of approximately 180 degrees at the image channel frequency.

14. The receiver portion of claim 13, wherein said bandpass filter is a SAW filter.

15. The receiver portion of claim 13, wherein:

said attenuator includes at least one resistor connected between said input and output terminals of said bandpass filter; and

said phase shifter includes at least one capacitor coupled between ground and a terminal of said at least one resistor.

16. The receiver portion of claim 13, wherein said attenuator includes first and second resistors coupled in series with each other and in parallel with said bandpass filter.

17. The receiver portion of claim 16, wherein said phase shifter includes a capacitor between ground and a terminal connection between said first and second resistors.

18. The receiver portion of claim 13, wherein an attenuator input is coupled to said input of said bandpass filter, a phase shifter input is coupled to an output of said attenuator, and an attenuator output is coupled to an output of said bandpass filter.

19. A dual conversion receiver, comprising:

a receiver input configured to receive an RF input signal having a plurality of channels;

a first mixer having a first input coupled to said receiver input and a second input coupled to a first local oscillator signal, said first mixer outputting a desired channel of said plurality of channels at a first IF frequency (IF_1);

a bandpass filter, having an input coupled to an IF output of said first mixer, and having a passband centered at IF_1 that passes said desired channel and attenuates an image channel of said desired channel; and

a second mixer having a first input coupled to an output of the bandpass filter and a second input coupled to a second local oscillator signal, said second mixer outputting said desired channel at a second IF frequency (IF_2); and

an image cancellation circuit, coupled in parallel with said bandpass filter, having a passband response at said image channel that is substantially equal in amplitude and opposite in phase of a response of said bandpass filter at said image channel.

20. The dual conversion receiver of claim 19, wherein said image channel occurs at a frequency of approximately ($IF_1 - 2 \cdot IF_2$).

21. The dual conversion receiver of claim 19, wherein said image channel falls outside said passband of said bandpass filter.

22. The dual receiver of claim 20, wherein said image cancellation circuit includes:

an attenuator having an attenuation that approximately matches an attenuation of said bandpass filter at said image channel; and

a phase shifter that phase shifts an output of said attenuator by approximately 180 degrees.

23. The dual conversion receiver of claim 19, wherein said first and second mixers are configured to have differential inputs and outputs.

24. The dual conversion receiver of claim 19, wherein said bandpass filter is a SAW filter.

25. The dual conversion receiver of claim 19, wherein said first and second mixers are disposed on a common substrate and said bandpass filter is external to said common substrate.

26. The method of claim 1, wherein the desired channel in the input signal occurs at an RF frequency (RF), further comprising the step of:

mixing the output signal of the combining step with a local oscillator signal to down-convert the desired channel from the RF frequency to an IF frequency (IF), wherein the image channel occurs at an approximate frequency of (RF - 2•IF).